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| EXAMINER | |
|---|---|
| CANTELMO, GREGG | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1795 | |

| NOTIFICATION DATE | DELIVERY MODE |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/553,206 | SANDAKER, KJELL | |
| | Examiner | Art Unit | |
| | Gregg Cantelmo | 1795 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *04 May 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *8-17* is/are pending in the application.

4a) Of the above claim(s) *15-17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 October 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/13/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1. In response to the amendment received May 4, 2009:

a. Claims 1-7 have been cancelled. Claims 8-17 are pending.

### *Election/Restrictions*

2. Applicant's election with traverse of Group I, claims 8-14 in the reply filed on May 4, 2009 is acknowledged.

Claims 15-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on May 4, 2009

Applicant's election with traverse of the restriction between the apparatus of Group I and the method of Group II in the reply filed on May 4, 2009 is acknowledged. The traversal is on the ground(s) that claims to different categories of invention will be considered to have unity of invention if the claims are drawn to only one of the following including (b)(4) a process and an apparatus or means specifically designed for carrying out said process. This is not found persuasive because the aforementioned condition must also satisfy the fundamental tenet of unity of invention, however it has been previously shown and is maintained that the claimed apparatus of Group I is not limited to the method of Group II and can be used in other methods and thus the apparatus is not specific for only carrying out the process of Group II. Thus there is no unity of invention between the apparatus and the method of groups I and II and Applicant's

response fails to show any clear and convincing arguments to support their argument. The requirement is still deemed proper and is therefore made FINAL.

The species requirement is currently withdrawn in light of the cancellation of the original claims 1-7 and presentation of new claims 8-17.

Action on the merits of claims 8-14 follows.

***Priority***

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

4. The information disclosure statement filed October 13, 2005 has been placed in the application file and the information referred to therein has been considered as to the merits. The foreign document cited has not been considered since no copy of this reference has been received. An extensive discussion of Information Disclosure Statement practice is to be found in MPEP § 609. Although not specifically stated therein, the duty to disclose information material to patentability as defined in 37 CFR 1.56 is placed on individuals associated with the filing and prosecution. 37 CFR 1.98(a)(2) requires a legible copy of: (1) each foreign patent; (2) each publication or that portion which caused it to be listed; (3) for each cited pending U.S. application, the application specification including claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion, unless the cited pending U.S. application is stored in the Image File Wrapper (IFW) system; and (4) all other information, or that portion which caused it to

be listed. In addition, each IDS must include a list of all patents, publications, applications, or other information submitted for consideration by the Office (see 37 CFR 1.98(a)(1) and (b)), and MPEP § 609.04(a), subsection I. states, "the list ... must be submitted on a separate paper." Therefore, the references cited in the Search Report have not been considered. Applicant is advised that the date of submission of any item of information or any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the IDS, including all "statement" requirements of 37 CFR 1.97(e). See MPEP § 609.05(a).

***Drawings***

5. The drawings received October 13, 2005 are acceptable for examination purposes.

***Specification***

6. The disclosure is objected to because of the following informalities:

The specification lacks the necessary section headings.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

**Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.

(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
(1) Field of the Invention.
(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

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Appropriate correction is required.

***Claim Interpretation - 35 USC § 112- 6th paragraph***

7. The claims now recite the phrase "means for" in the claims which is suggestive of the desire to invoke 112-6th paragraph. However it is noted that claims 10 and 11 are not held to properly invoke since these claims do not meet the 3-prong test for proper invocation of this paragraph of section 112. Notably the phrase "means for " or "step for " in these claims are modified by sufficient structure, material, or acts for achieving the specified function. During examination, however, applicants have the opportunity and the obligation to define their inventions precisely, including whether a claim limitation invokes 35 U.S.C. 112, sixth paragraph. Thus, if the phrase "means for" or "step for" is modified by sufficient structure, material or acts for achieving the specified function, the USPTO will not apply 35 U.S.C. 112, sixth paragraph, until such modifying language is deleted from the claim limitation (see MPEP section 2181). If a claim

limitation does include the phrase "means for" or "step for," that is, the first prong of the 3-prong analysis is met, but the examiner determines that either the second prong or the third prong of the 3-prong analysis is not met, then in these situations, the examiner must include a statement in the Office action explaining the reasons why a claim limitation which uses the phrase "means for" or "step for" is not being treated under 35 U.S.C.112, sixth paragraph. Accordingly, these guidelines provide applicants with the opportunity to either invoke or not invoke 35 U.S.C. 112, sixth paragraph, based upon a clear and simple set of criteria.

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 8-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendment now recites the phase "means for" which was not previously recited in the original disclosure. This appears to introduce new matter especially if the amendment is meant to invoke paragraph 6 of section 112.. Clarification is respectfully requested.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by JP 01-234024 (JP '024).

Note that the phrase "for the use of fuel cells in case of load variations" is held to be intended use. Additionally it is noted that the claimed energy can be any form of energy and in this interpretation is held to be electrical energy. With such, the following prior art rejection applies as described herein.

JP '024 discloses a fuel cell system comprising: a) at least one fuel cell 1; b) at least one buffer 9 for storage of surplus energy, arranged to function as a regulating system between the fuel cell and a energy consumption unit; wherein the system further comprises; e) a controller for dumping energy which is required to be led out of the system when the buffer 9 is full or according to need; and d) means 5 for transforming the energy stored in the buffer to a required form of energy, at greater energy need than the fuel cell can meet, or for transforming of energy which is not used and which shall be stored in another form, or for transforming of energy stored in the buffer which shall be dumped in another form (Fig. 1 and abstract as applied to claim 8).

10. Claims 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 61-190866 (JP 866).

JP '866 discloses a fuel cell system comprising: a) at least one fuel cell 5; b) at least one buffer 15 for storage of surplus energy, arranged to function as a regulating system between the fuel cell and a energy consumption unit; wherein the system further comprises; e) a controller for dumping energy which is required to be led out of the system when the buffer 15 is full or according to need; into d) means 1 for transforming the energy stored in the buffer to a required form of energy, at greater energy need than the fuel cell can meet, or for transforming of energy which is not used and which shall be stored in another form, or for transforming of energy stored in the buffer which shall be dumped in another form (Fig. 1 and abstract as applied to claim 8).

The buffer 15 is a pressure boiler (abstract as applied to claim 9).

11. Claims 8-13 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 3,976,506 (Landau).

Landau discloses a fuel cell system comprising: a) at least one fuel cell 12; b) at least one buffer 20 for storage of surplus energy, arranged to function as a regulating system between the fuel cell and a energy consumption unit; wherein the system further comprises; e) means for dumping thermal energy which is required to be led out of the system when the buffer 20 is full or according to need; into d) means for transforming the energy stored in the buffer 20 to a required form of energy, at greater energy need than the fuel cell can meet, or for transforming of energy which is not used and which shall be stored in another form, or for transforming of energy stored in the buffer which shall be dumped in another form (Fig. 1 and abstract as applied to claim 8).

The buffer 20 is a pressure boiler (Fig. 1 as applied to claim 9).

The means for dumping is a steam exhaust from boiler 20 (Fig. 1 as applied to claim 10).

The means for dumping energy from the fuel cell includes a heat exchange feature in the boiler 20 and thus the heated coolant supplied from the fuel cell to the boiler is regarded as a heating element along with the undulating heat exchange conduit within the boiler 20 (Fig. 1 as applied to claim 11).

The energy dumping and transforming components includes a water-steam circuit where water is supplied to the boiler and heat exchange feature in the boiler 20 and steam is expelled from the boiler 20 (Fig. 1 as applied to claim 12).

The boiler 20 functions as a subsystem for recovering heat from the fuel cell and using the recovered head to heat the water supplied to the boiler into steam (Fig. 1 as applied to claim 13).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Landau as applied to claim 8 above, and further in view of either JP 10-334936 (JP '936), U.S. Patent No. 4,622,275 (Noguchi) or U.S. Patent No. 5,482,791 (Shingai).

The difference between claim 14 and Landau is that Landau does not teach of the system further comprising a sub-system with a steam-condensate circuit with a steam turbine.

It is well known in the art to improve the efficiency of power systems by converting energy forms as needed. One known way is to convert steam supplied from a boiler to a turbine which subsequently converts the energy generated by the turbine from mechanical energy into electrical energy and also condenses the steam in the circuit (see JP '936 abstract, or Noguchi Fig. 1 and col. 6, ll. 50-57 or Shingai, Fig. 2 and corresponding disclosure).

The motivation for providing the system with a sub-system having a steam-condensate circuit with a steam turbine is that it improves the energy efficiency of the system.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Landau by providing the system with a sub-system having a steam-condensate circuit with a steam turbine as taught by either JP '936, Noguchi or Shingai since it would have improved the energy efficiency of the system.

***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is 571-272-1283. The examiner can normally be reached on Monday to Thursday, 8:30-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gregg Cantelmo/
Primary Examiner, Art Unit 1795